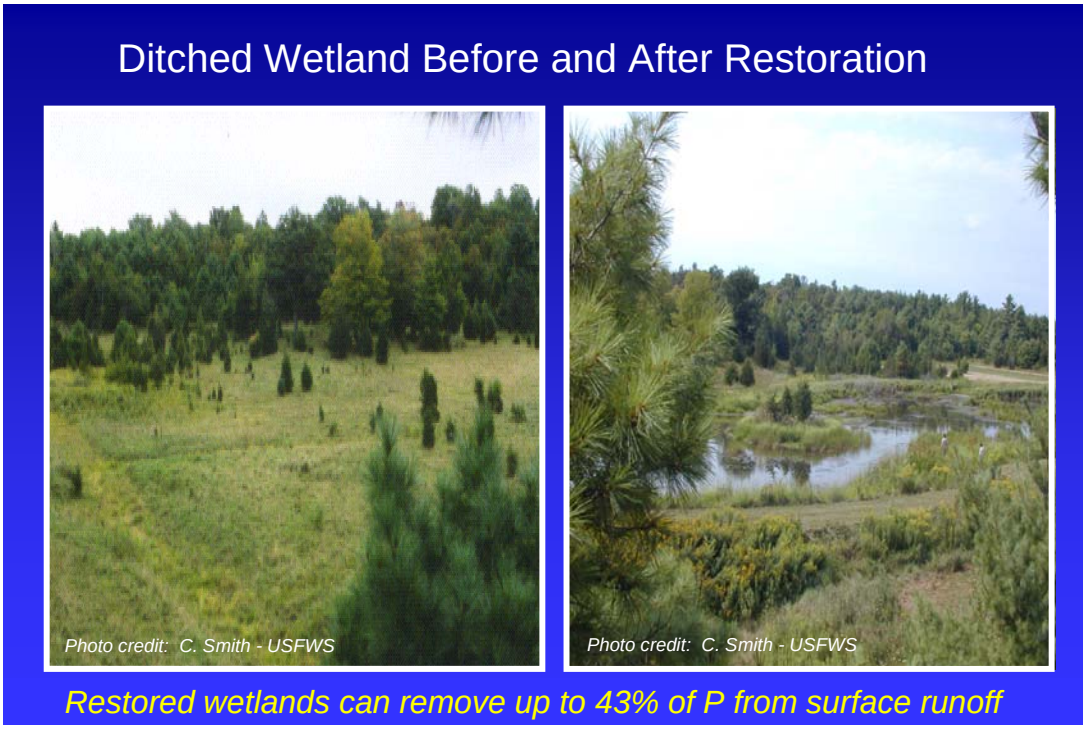
Wetland Protection and Restoration

Why Wetlands?

One of the most commonly cited functions of wetlands is their ability to maintain and improve the water quality of adjacent streams, rivers, and lakes. This is largely due to their unique position in the landscape, with many wetlands located between upland areas and streams, rivers, or lakes. Surface runoff often flows through riparian wetlands prior to discharging into streams, rivers and lakes. Phosphorus-containing sediment is deposited in riparian wetlands as surface runoff flows through dense wetland vegetation. The vegetation through nutrient uptake can then absorb the associated pollutants.

The importance of riparian wetlands in the retention and removal of significant amounts of sediment and phosphorus from runoff has been well documented in the scientific literature. The importance of wetlands in nutrient uptake is now widely recognized, and artificial wetlands are often created to mimic the water quality benefits of natural wetlands.



Program Description

The State currently has jurisdiction over riparian wetlands through a variety of regulatory programs, including the Vermont Wetland Rules, Act 250, and the 401 Water Quality Certification; and there are also federal restrictions on wetlands development managed by the Corps of Engineers in Vermont. These existing programs can be used to maintain the water quality benefits of riparian wetlands. However, a significant acreage of wetlands in the Lake Champlain Basin has been impacted by land use practices. These impacts can impair the ability of the wetland to act as a filter for pollutants such as phosphorus. Highly impaired wetlands can become a source of phosphorus. The Lake Champlain Phosphorus TMDL recommends that a study be undertaken to identify

impaired wetlands in the watershed that have the greatest potential to act as a sink for phosphorus. Once these wetlands are identified, restoration plans should be developed and implemented to restore impaired functions.

In 1994, the "Lake Champlain Wetlands Acquisition Study" was published. This study identified wetlands that should be considered for acquisition based on a number of factors, including water quality protection. This study and other existing studies can be used, and expanded upon, to identify wetlands that should be acquired based on their potential for retaining phosphorus.

In 2004, the General Assembly appropriated $250,000 in capital funds for the restoration and protection of wetlands.

Progress to Date

The following activities have been undertaken to date:

- The agency conducted a study of methodologies that other states have used to prepare wetland restoration plans. Based on this study, the agency is preparing a request for proposals for the completion of the wetlands restoration plan recommended in the TMDL, using $80,000 of the capital funds appropriated for this activity in FY05.
- This past year agency staff met with the following groups and organizations to identify and discuss potential current and future wetland restoration opportunities: Nature Conservancy, Vermont Land Trust, Natural Resource Conservation Service, Vermont Department of Fish and Wildlife, Vermont Department of Lands Management, Lake Champlain Land Trust, Hinesburg Land Trust, and the Missisquoi National Wildlife Refuge. Program staff is currently in the process of trying to set up appointments to meet with the Trust for Public Land and local groups that are located within the watershed with an interest in water quality protection.
- The agency has created the first-ever statewide wetland restoration database in Vermont. The need for a database was identified after meeting with the various groups involved in wetland restoration and realizing that no such centralized database exists. This database will soon be available as a web-based resource for wetland project site review and data entry.
- An intern worked two days a week for three months on wetland restoration efforts.
- The agency developed a wetland restoration fact sheet for distribution to the public.
- Several potential restoration projects have been identified.

During this past year the agency has learned that it takes time to identify both suitable parcels for wetland restoration and willing landowners. The latter appears to be the greatest challenge. According to Bill Crenshaw of the Vermont Department of Fish and Wildlife, restoration agreements generally may take up to three years to come to fruition. The agency has made progress in this area using existing program staff and an intern. Securing a position for this purpose, as proposed in the FY06 budget, would greatly help speed the process of finding suitable sites, developing wetland restoration plans, and implementing them.

Wetland Protection and Restoration Indicators

In order to track the progress of the Clean and Clear Action Plan with respect to wetlands, the Wetlands Section proposes to monitor the following program indicators:

Indicator Description	Unit of Measure
Wetland Preservation	Wetland Acres Preserved
Wetland Restoration	Wetland Acres Restored
Wetland Outreach and Education	Number of Presentations